

terms used, and an index. We say it is an excellent key, because we have tried it for several genera, and have found that it "works." An especially valuable feature is the inclusion of cultivated genera such as *Buxus*, *Torreya*, *Cercidiphyllum*, *Shepherdia*, *Acanthopanax*, *Eucommia*, *Gordonia*, *Buddleia*, *Corylopsis*, *Maackia*, *Koelreuteria*, and many others, which to a beginner are insurmountable stumbling blocks, since they are not included in most keys; and yet they do occur, some of them very commonly, in the parks and estates of the Northeast.

ARTHUR H. GRAVES

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## FIELD TRIPS OF THE CLUB

### FIELD TRIP OF SUNDAY, MAY 17

Our party of ten left the shores of Greenwood Lake at Lakeside, which lies at 620 feet elevation, the objective being Surprise Lake nestling above, to the westward, in a steep-sided depression, slightly over 1300 feet above sea level. Ascending the trail up the mountainside by easy stages, we paused halfway at the never-failing spring presided over by the three tupelos (*Nyssa sylvatica*) and then headed for Lookout Rock. An ideal day gave fine visibility from this vantage point, and the extended panorama of rolling hills in all directions was indeed an inspiring sight. It was possible to discern several of the Catskill mountains far to the north, and in this way to orient the members of our group, most of whom were visiting the region for the first time.

The forest rang with bird songs, the peak of the spring migration having been reached by this date. Many of the birds are, however, permanent residents of the region, notably the golden-winged warbler and the pileated woodpecker. Along the trail and in bloom were such members of the spring flower troupe as one commonly encounters over these hills—viz:—*Pedicularis canadensis*, *Zizia aurea*, *Polygala paucifolia*, *Panax trifolium*, *Arisaema triphyllum*, *Aralia nudicaulis*, *Aquilegia canadensis*, *Trientalis americana*, *Smilacina racemosa*, and also the much rarer *Smilacina stellata*.

It is gratifying to note the steady increase of *Cypripedium acaule* over the Bearfort, although but a few plants were actu-

ally in full bloom, another week being needed for the perfection of their rich and showy beauty. Along the same rocky ledges with the moccasin flower was also found in bloom the sturdy though fragile-looking *Corydalis sempervirens*, and this plant was of fairly common occurrence throughout the day. On the summit of the long, rocky ridges was much of the black chokeberry, *Pyrus melanocarpa*. In full bloom, it arrested attention



FIGURE 1. *Trillium undulatum* Willd. Painted Trillium. Found on trip to "The Unknown Pond," Bearfort Mountain, N. J. May 17, 1931. Photo by Louis W. Anderson.

and was cause for comment, both for its delicate beauty and manner of thriving in the interstices of the rocks.

Everywhere as we progressed over the tops of the ridges, the showy, full blown, though small trees of *Prunus pennsylvanica* were much in evidence. Upon reaching Surprise Lake, we came upon a large colony of *Woodwardia virginica*, while bordering the lake was *Chamaedaphne calyculata* in full bloom.

Springing up over a good-sized area was *Aralia hispida*, which was interesting to note, being of uncommon occurrence in this part of the country. But the most interesting find of the Surprise Lake section was one plant of the rare *Clematis verticillaris* bearing two full blown flowers.

Striking out through somewhat rough country we finally reached, at an altitude of about 1280 feet, the Unknown Pond, or the "Unnamed Pond" as it is termed in "The New York Walk Book." Hereabouts was found another station of the somewhat rare Virginia chain fern; and *Ilex laevigata*, the smooth winterberry, was another interesting addition to our list.

The "high spot" of the day, however, was the discovery of the painted trillium, *Trillium undulatum*: five perfect flowers were counted. We believe this to be a new locality for the species, although it has long been recorded from Passaic County, and from Sussex and Orange Counties. In his column in the New York *Evening Post* of May 22, Mr. Torrey suggests re-naming the Unknown Pond "Painted Trillium Pond" in honor of this unusual and beautiful species. (Figure 1.)

We recommend this somewhat inaccessible spot, hemmed in by rhododendron jungles and hidden by black spruce, for further and more intensive study.

HELENE LUNT

## BRANCHVILLE NATURE CONFERENCE

May 22-24

The annual outing for nature students, sponsored by the Torrey Botanical Club, and led by Mr. and Mrs. William Gavin Taylor, was held at "The Pines," Branchville, New Jersey, May 22-24 inclusive. Ninety-eight members and friends from various clubs attended. A large number of the party reached the inn Friday afternoon in time to do justice to an excellent dinner, and enjoy a reunion and bird concert. In the evening we gathered in the recreation hall and listened to an illustrated talk by Dr. Henry S. Kummel, State Geologist of New Jersey, who outlined some geological features of the surrounding country, which he planned to visit with a group the following day.

Mrs. A. Tennyson Beals explained the process of banding and recording birds, as carried out by licensed co-operators with the U. S. Biological Survey. She showed unique and interesting

lantern slides, and also exhibited and explained the apparatus used. Mrs. Beals has the only official bird-banding station in New York City.

Mr. C. H. Curran of the Department of Entomology, American Museum of Natural History, gave an illuminating talk on insect life, stressing the point that a very small percentage of insects is harmful, and that many species are beneficial to man. He also explained that one often could not get any nearer than the family in identifying this large division of life, and that any student might expect to find unrecorded forms.

Very early Saturday morning bird study groups were led by Dr. and Mrs. Chubb, Mr. and Mrs. Leon Nichols, Miss Helen Saunders and Miss Ellen Steele. Later, Dr. Kümmeled led an excursion by automobile to points of particular geological interest in northwestern New Jersey, with the last objective at Hamburg, where he pointed out the base of the Cambrian resting on eroded gneiss, a land surface about 700,000,000 years old. This group returned to the inn for luncheon. In the afternoon they took a trip through Sussex to High Point, the highest spot in the state, where many structural features were pointed out—thence to Port Jervis and Culver's Gap, with several stops for instruction and observation. Between High Point and Port Jervis a very interesting fossil deposit was visited.

Mr. Curran led a group in the morning and another in the afternoon, pointing out the varied and fascinating insect life to be found near the inn. Bird study groups were formed for further study in the morning and again in the late afternoon.

On Saturday evening in the recreation hall three very instructive and entertaining talks were given. The first was by Dr. Chubb on "Nesting Fish Hawks," with amusing and educational slides made by the speaker in Southern New Jersey and at Gardiner's Island. Mr. Raymond H. Torrey told of the history and development of the Appalachian Trail, with special reference to its plant life. Mr. A. Tennyson Beals spoke on mosses, showing many slides depicting the mosses highly magnified, and explaining their elaborate structure, their habitats and the distinctions between the various groups. He also showed a fine collection of mosses gathered in the vicinity. Miss Margaret McKenny, author of a recent book on mushrooms, exhibited a generous number of her original photographs of mushrooms.

On Sunday morning, despite a cold drizzle, the zealous sought birds again. Another leader, Mr. H. C. Hasbrouck, who arrived Saturday evening, led one of the groups. The rain dwindled to occasional slight showers. While the insects refused to come and be observed, various students found birds, flowers, ferns, mosses and lichens in the neighborhood of the inn. A group led by Raymond H. Torrey took cars to High Point and hiked over a section of the Appalachian Trail, returning for dinner.

Mrs. Chubb reported 56 species of birds, seen or heard by authorized observers in the various parties.

Regarding the mosses Mr. Beals makes the following statement: "No new or unusual mosses were observed at Branchville this year, either about the hotel or on the trip to Pine Swamp, except the *Thelia* which was noted on the base of oak trees in woods along the old wood road that we travelled just before reaching Pine Swamp. Sixty-five species were listed, but this number could probably be increased to at least 200 with careful work, in three or four days, within five miles of Pine Hill. Perhaps the most frequent moss seen along the rocks back of the hotel is *Ammonodon rostratus*, of a yellow-green color: it forms a mat of yellow-green velvet on moist limestone rocks and about bases of trees in limestone regions. In the pasture to the north there were great beds of *Polytrichum commune* L. and *P. juniperinum* Willd., while in nearby woods there was an occasional small patch of *P. ohioense* Ren. and Gard.—all three in fine immature fruit. These are all common mosses and are found in New Jersey wherever suitable conditions exist in the hill country."

The fern and flowering plant life in this region is very rich. A few of the more interesting species are reported by Mr. Raymond H. Torrey:

The most interesting plant discovery of the Branchville week-end was that made by Mr. Beals in the swamp north of Mashipicong Pond, namely, *Arceuthobium pusillum*, the dwarf mistletoe, parasitic on spruces and larches. It occurred on the Black Spruce, *Picea mariana*, of which there is a considerable stand about this pond. Although *Arceuthobium* is found in many spruce bogs in New England, this was the first station reported in New Jersey. This tiny plant, only an inch tall, discloses itself, as Mr. Beals explained, by the 'witches' brooms' which it

causes on the spruce boughs. Other interesting species in this swamp were *Kalmia polifolia*, rare in northern New Jersey; *Smilacina trifolia*, equally uncommon in this latitude; and *Trillium undulatum*, one of probably not more than half a dozen stands in the New Jersey highlands.

A striking plant, which seems locally common on the western slope of the Kittatinys, and is also found in the cemetery near the hotel, but does not occur in eastern New Jersey or the lower Hudson valley, was the Painted Cup, *Castilleja coccinea*, a splendid thing with the scarlet leaves at the top of the stem, below the small and inconspicuous flowers.

Another handsome display in mass was afforded by dense colonies of *Corydalis semervirens* on open ledges on the Appalachian Trail, in the Stokes State Forest, their pink-purple bloom being extraordinarily copious. *Cypripedium acaule*, *pubescens* and *parviflorum* were found on this trail. *Krigia virginica* made pretty little colonies of orange bloom on the thin soil on ledges.

Immense colonies of May-apple, *Podophyllum peltatum*, covered old pastures on both east and west slopes of Kittatiny Mountain. Hound's Tongue, *Cynoglossum officinale*, in old pastures, and a somewhat unusual geranium, *Geranium carolinianum*, were interesting species.

The sole stand in New Jersey of the Three Toothed Cinquefoil, *Potentilla tridentata*, on the summit of High Point, was visited, and if there is no further disturbance of the natural conditions incident to the construction of the war monument and the parking space, the colony seems likely to survive. Fortunately its flowers are so inconspicuous that it is not likely to be plucked excessively by visitors.

The rich fern flora on the limestone ledges about The Pines, including *Pellaea atropurpurea*, *Asplenium Ruta-muraria*, *Camp-tosorus rhizophyllus*, *Aspidium cristatum*, var. *Clintonianum*, *Aspidium Goldianum*, and *Asplenium Trichomanes*, were again enjoyed by the party.

MARY P. TAYLOR

#### CATSKILL TRIP, MAY 30-31

A climb of Balsam Cap, 3700 feet, one of the summits in the line running south from Wittenberg and Cornell, between the Esopus and Rondout Valleys, from the head of Maltby Hollow, on Memorial Day, disclosed the succession backward, from early summer flowers in the lowlands to early spring blooms above 3500 feet, which is always an interesting phenomenon about the end of May in the Catskills. White daisies and the king devil, *Hieracium florentinum*, were in bloom in the fields west of the Ashokan Reservoir. As the climb was started from

the Moon Haw Club, three miles west of West Shokan, *Tiarella cordifolia* was conspicuous. *Trillium erectum* was in fruit at 1200 feet, but at 2500 feet it was just coming into bloom and there was joined by *Trillium undulatum*, in fine flower. *Streptopus*, both *roseus* and *amplexifolius*, with their dainty, nodding, concealed flowers, were numerous at from about 1500 to 3500 feet. *Clintonia borealis* was past bloom at 1500 feet, but in prime flowering condition at 3000. *Viburnum alnifolium* had likewise passed blooming at lower levels but the showy outside flowers were handsome at 3000 feet. A curious phenomenon was noted in this shrub. Several showed only one pair of leaves, at the end of the stems, and they were abnormally large, ten inches in diameter, whereas the usual size is about half that. Examination showed that the winter leaf- and flower-buds, which are fat and juicy, had been nipped off by deer, and that the pair of leaves at the ends of the stems or branches had developed from auxiliary buds which had appeared just back of the terminal ones. All of the energy of the rising sap had poured into the two leaves at the end, accounting for their extraordinary size.

An interesting find was a single plant of *Habenaria Hookeri*, with great round leaves flat on the ground, not yet in bloom. No *Cypripediums* were found in the beech and maple woods above 1500 feet, but *Cypripedium acaule* was numerous in oak woods on the south side of High Point, at about 800 feet. Near the top of Balsam Cap, a large slide, 1400 feet long and 100 feet wide, which occurred in 1930, showed a great scar in the forest cover. Spruces and yellow birches of large size were overwhelmed in the slide, which was apparently due to saturation of the loose rocks and earth by a three days' storm, on a slope where the cover was barely in repose, and was partly held in place by the roots of the trees. Nature was starting to cover the raw scar, with one or two mosses, a fern that looked like *Woodsia obtusa*, and seedling beeches and maples. A handsome colony of the orange aethalia of the slim mold *Lycogala epidendrum*, in early maturity, on a dead hemlock, was an interesting display of this organism.

An interesting immigrant from the West, found along the highway from Ashokan Dam to Stone Ridge, was *Agoseris cuspidata*, with large, solitary heads, with bell shaped involucre, and narrowly lanceolate leaves tapering to an elongated point. Its range, as reported in manuals of twenty years ago, is from Wisconsin and northern Illinois westward, but here

it was at the foot of the Catskills. It is suggested that it may have been established there as an immigrant, the seeds of which were brought east mixed with grass seed or perhaps in the great quantities of baled hay, food for the horses used in the construction of the Ashokan Reservoir and dam, before the days of automobile tractors.

A large and handsome colony of the oak fern, *Phegopteris Dryopteris*, was found at the top of Wagon Wheel Gap, on the east slope of High Point, the course of a glacial stream with large "fossil" cataracts, which drained the Esopus Valley, when the eastern opening was blocked by thick ice. The deeply piled rock fragments in this cool, shaded notch keep the winter ice from melting until midsummer; and the low temperature, a sharp contrast to that outside, was apparently favorable to the oak fern, a species common farther north.

On the way up, a splendid purple display in a grass field east of Middletown proved to be the ragged robin, *Lychnis Flos-cuculli*, covering acres, the largest assemblage of the plant I have ever seen. *Silene noctiflora* was also numerous and conspicuous in the twilight along the roads in western Orange and southern Ulster counties.

RAYMOND H. TORREY